Amendments to the Claims:

1. (Original) A communication circuit, comprising:

a signal processing circuit arranged to produce a first plurality of data signals and receive a second plurality of data signals;

a transmit circuit coupled to receive the first plurality of data signals, the transmit circuit arranged to transmit each data signal of the first plurality of data signals on a respective transmit frequency in a predetermined sequence of transmit frequencies; and

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a receive circuit coupled to receive each data signal of the second plurality of data signals from a remote transmitter on the respective transmit frequency in the predetermined sequence, the receive circuit applying the second plurality of data signals to the signal processing circuit.

2. (Original) A communication circuit as in claim 1, wherein the remote transmitter transmits said each data signal of the second plurality of data signals from a plurality of antennas.

3. (Original) A communication circuit as in claim 2, wherein each data signal of the second plurality of data signals is multiplied by a weighting coefficient corresponding to a respective antenna of the plurality of antennas, and wherein each said weighting coefficient has a value corresponding to a received signal strength at the respective antenna.

4. (Original) A communication circuit as in claim 2, wherein each data signal of the second plurality of data signals is multiplied by a weighting coefficient corresponding to a respective antenna of the plurality of antennas, and wherein a first weighting coefficient corresponding to a first antenna of the plurality of antennas has a value of one, and a second weighting coefficient corresponding to a second antenna of the plurality of antennas has a value of zero.

5. (Original) A communication circuit as in claim 1, wherein the communication circuit is arranged to form a piconet with the remote transmitter.

6. (Original) A communication circuit as in claim 1, wherein the remote transmitter is a master device and wherein the communication circuit is a slave device.

7. (Original) A communication circuit as in claim 6, wherein the first plurality of data signals comprises a plurality of data bits that identify the slave device to the master device.

8. (Original) A communication circuit as in claim 1, wherein the signal processing circuit receives the first plurality of data signals from one of a cordless phone handset, a cell phone, a personal digital assistant, a digital camera, and a computer peripheral.

9. (Original) A communication circuit as in claim 8, wherein the computer peripheral is one of a printer, a scanner, a fax machine, and another computer.

10. (Original) A communication circuit as in claim 1, wherein the signal processing circuit applies the second plurality of data signals to one of a cordless phone base station, a local area network access point, a computer, and a bridge to other networks.

11. (Original) A communication circuit as in claim 1, wherein the first plurality of data signals includes an identification signal that identifies one of the communication circuit and the remote transmitter.

12. (Original) A communication circuit as in claim 11, further comprising a timing circuit coupled to receive an initial value corresponding to a predetermined time, the timing circuit arranged to produce a first control signal in response to receiving the identification signal within the predetermined time and arranged to produce a second control signal in response to not receiving the identification signal within the predetermined time.

13. (Original) A communication circuit as in claim 12, wherein the receive circuit receives each data signal of the second plurality of data signals on the respective transmit frequency in the

predetermined sequence in response to the first control signal, and wherein the receive circuit receives each data signal of the second plurality of data signals on the respective transmit frequency in a sequence of transmit frequencies different from the predetermined sequence in response to the second control signal.

14. (Previously amended) A communication circuit, comprising:

a plurality of antennas coupled to receive a first data signal from a remote transmitter on a respective frequency of a frequency hopping pattern and transmit a second data signal on the respective frequency;

a measurement circuit coupled to receive the first data signal from the plurality of antennas, the measurement circuit arranged to measure the first data signal from each antenna and produce a respective weighting coefficient corresponding to said each antenna; and

a transmit circuit coupled to receive the second data signal, the transmit circuit arranged to multiply the second data signal by the respective weighting coefficient corresponding to said each antenna, thereby producing a respective weighted second data signal corresponding to said each antenna, the transmit circuit arranged to apply the respective weighted second data signal to the corresponding said each antenna.

15. (Original) A communication circuit as in claim 14, wherein the respective weighting coefficient corresponding to said each antenna has a value corresponding to a received signal strength of the first data signal at said each antenna.

16. (Original) A communication circuit as in claim 14, wherein a first weighting coefficient corresponding to a first antenna of the plurality of antennas has a value of one and a second weighting coefficient corresponding to a second antenna of the plurality of antennas has a value of zero.

17. (Original) A communication circuit as in claim 14, wherein the plurality of antennas are spaced apart by at least 2 centimeters and by no more than 15 centimeters.

18. (Original) A communication circuit as in claim 17, wherein the plurality of antennas consists of two antennas.

19. (Original) A communication circuit as in claim 14, wherein the communication circuit is arranged to form a piconet with the remote transmitter.

20. (Original) A communication circuit as in claim 19, wherein the remote transmitter is a remote transmitter of a slave device and the communication circuit is a master device.

21. (Original) A communication circuit as in claim 14, wherein the first data signal comprises a plurality of data bits that identify the remote transmitter to the communication circuit.

22. (Original) A communication circuit as in claim 14, wherein the remote transmitter is coupled to one of a cordless phone handset, a cell phone, a personal digital assistant, a digital camera, and a computer peripheral.

23. (Original) A communication circuit as in claim 22, wherein the computer peripheral is one of a printer, a scanner, a fax machine, and another computer.

24. (Original) A communication circuit as in claim 14, wherein the transmit circuit is coupled to one of a cordless phone base station, a local area network access point, a computer, and a bridge to other networks.

25. (Original) A communication circuit as in claim 14, further comprising:

a summation circuit; and

a receive circuit coupled to receive the first data signal, the receive circuit arranged to multiply the first data signal by the respective weighting coefficient corresponding to said each antenna, the receive circuit arranged to apply said each first data signal to said summation circuit.

26. (Original) A communication circuit as in claim 14, wherein the first data signal includes an identification signal that identifies one of the communication circuit and the remote transmitter.

27. (Original) A communication circuit as in claim 26, further comprising a timing circuit coupled to receive an initial value corresponding to a predetermined time, the timing circuit arranged to produce a first control signal in response to receiving the identification signal within the predetermined time and arranged to produce a second control signal in response to not receiving the identification signal within the predetermined time.

28. (Original) A communication circuit as in claim 27, wherein the transmit circuit produces the second data signal in a first sequence of transmit frequencies in response to the first control signal, and wherein the transmit circuit produces the second data signal in a second sequence of transmit frequencies different from the first sequence in response to the second control signal.

29. (Original) A method of communicating with a remote communication circuit, comprising the steps of:

transmitting a first plurality of data signals to the remote communication circuit on a first sequence of respective frequencies; and

receiving a second plurality of data signals from the remote communication circuit on the first sequence of respective frequencies.

30. (Original) A method as in claim 29, wherein the remote communication circuit transmits the second plurality of data signals from a plurality of antennas.

31. (Original) A method as in claim 30, wherein each data signal of the second plurality of data signals is multiplied by a weighting coefficient corresponding to a respective antenna of the plurality of antennas, and wherein each said weighting coefficient has a value corresponding to a received signal strength at the respective antenna.

32. (Original) A method as in claim 30, wherein each data signal of the second plurality of data signals is multiplied by a weighting coefficient corresponding to a respective antenna of the plurality of antennas, and wherein a first weighting coefficient corresponding to a first antenna of the plurality of antennas has a value of one, and a second weighting coefficient corresponding to a second antenna of the plurality of antennas has a value of zero.

33. (Original) A method as in claim 29, wherein the remote communication circuit forms a piconet with at least another communication circuit.

34. (Original) A method as in claim 29, wherein the first plurality of data signals includes an identification signal that identifies at least one communication circuit.

35. (Original) A method as in claim 34, further comprising the steps of:

producing a first control in response to receiving the identification signal is received within a predetermined time; and

producing a second control signal in response to not receiving the identification signal is received within the predetermined time.

36. (Original) A method as in claim 35, further comprising the steps of:

receiving the second plurality of data signals from the remote communication circuit on a first sequence of respective frequencies in response to the first control signal; and

receiving the second plurality of data signals from the remote communication circuit on a second sequence of respective frequencies different from the first sequence in response to the second control signal.

37. (Original) A method as in claim 29, wherein the remote communication circuit is a master device and wherein a slave device receives the second plurality of data signals.

38. (Original) A method as in claim 29, wherein the second plurality of data signals is produced by one of a cordless phone base station, a local area network access point, a computer, and a bridge to other networks.

39. (Original) A method as in claim 29, wherein the first plurality of data signals is produced by one of a cordless phone handset, a cell phone, a personal digital assistant, a digital camera, and a computer peripheral.

40. (Original) A method as in claim 39, wherein the computer peripheral is one of a printer, a scanner, a fax machine, and another computer.

41. (Previously amended) A method of communicating with a remote communication circuit, comprising the steps of:

receiving a first data signal from a plurality of antennas on a respective frequency of a frequency hopping pattern;

calculating a respective weighting coefficient corresponding to each antenna of the plurality of antennas;

multiplying a second data signal by the respective weighting coefficient of said each antenna, thereby producing a respective second weighted data signal corresponding to said each antenna; and

transmitting each said respective second weighted data signal at the corresponding said each antenna of the plurality of antennas on the respective frequency.

42. (Original) A method as in claim 41, wherein the plurality of antennas are spaced apart by at least 2 centimeters and by no more than 15 centimeters.

43. (Original) A method as in claim 42, wherein the plurality of antennas consists of two antennas.

44. (Original) A method as in claim 41, wherein the remote communication circuit is arranged to form a piconet with at least another communication circuit.

45. (Original) A communication circuit as in claim 44, wherein the remote communication circuit is a slave device.

46. (Original) A method as in claim 41, wherein the first data signal includes an identification signal that identifies the remote communication circuit.

47. (Original) A method as in claim 41, wherein the remote communication circuit is one of a cordless phone handset, a cell phone, a personal digital assistant, a digital camera, and a computer peripheral.

48. (Original) A method as in claim 47, wherein the computer peripheral is one of a printer, a scanner, a fax machine, and another computer.

49. (Original) A method as in claim 41, wherein the second data signal is produced by one of a cordless phone base station, a local area network access point, a computer, and a bridge to other networks..

50. (Original) A method as in claim 41, further comprising the steps of:

multiplying the first data signal by the respective weighting coefficient of said each antenna, thereby producing a respective first weighted data signal corresponding to said each antenna; and

summing each said respective first weighted data signal corresponding to said each antenna, thereby producing a received signal.

51. (Original) A method as in claim 41, wherein the step of calculating comprises setting each said respective weighting coefficient corresponding to each antenna of the plurality of antennas to a value proportional to a value of the first data signal from said each antenna.

52. (Original) A method as in claim 41, wherein the step of calculating comprises setting a first said respective weighting coefficient corresponding to a first antenna of the plurality of antennas to a value of one and setting a second said respective weighting coefficient corresponding to a second antenna of the plurality of antennas to a value of zero in response to the first data signal from the first antenna having a greater value than the first data signal from the second antenna.